

ABSTRACT OF THE DISCLOSURE

A gas release valve for a paintball marker employs a uniquely configured gas flow passage to improve gas flow through the valve and enhance the performance and efficiency of the marker. A short axial intake portion of the gas flow passage meets an angled exhaust portion at an angle of approximately 120°. A transition surface at the intersection of the intake and exhaust portions is at least partially defined by a portion of a sphere. The valve body defines an internal spring chamber in which an elastic o-ring engages a radial groove on the valve stem to hold the valve bias spring in compressed relationship inside the spring chamber. The o-ring also seals the valve stem to the valve body and supports the valve during reciprocation. The disclosed valve configuration improves the efficiency and ease of assembly and disassembly of the gas release valve.